IN THE SPECIFICATION:

Please replace paragraph [0022] with the following amended paragraph:

[0022] Referring now to Figure 1, a schematic representation of a semiconductor device 10, according to one preferred embodiment is depicted as consisting of a germanium substrate 12, a nucleation layer 16, a series of III-V epitaxial layers 18, and a plurality of electrical contacts 20a, 20b, 20c, 20d, and 20e. In an alternative preferred embodiment, as shown in Figure 2, a buried germanium diffused-doping active layer 14, is formed on a top portion of the germanium substrate 12 adjacent to the nucleation layer 16 and may include an additional electrical contact 20f.

Please replace paragraph [0027] with the following amended paragraph:

[0027] On top of the nucleation layer 16, III-V semiconductor layers 18 are epitaxially deposited successively to form one or more ~~the~~ desired device structures such as transistors (shown as 60 in Figure 3), resistors and diodes. The number and type (n-type or p-type doping) of epitaxial layers 18 may vary depending upon the application. For example, a heterojunction bipolar transistor structure may have an n-p-n GaAs/GaAs/InGaP epitaxial layer structure. For illustrative purposes, Figures 1 and 2 shows three separate devices, including a first diode 19a that is formed by electrically coupling electrical contacts 20a , 20b through layers 18a and 18b; a second diode 19b that is formed by electrically coupling contacts 20b, 20c through layers 18b and 18c; and a resistor 21 that is formed by electrically coupling electrical contacts 20c , 20d through layer 18c.

Please replace paragraph [0029] with the following amended paragraph:

[0029] Next, using conventional photolithography and semiconductor fabrication techniques, electrical contacts 20a, 20b, 20c, 20d, 20e, and 20f are formed to the various layers of the semiconductor device 10. While contacts 20a, 20b, 20c, 20d, 20e, and 20f may be formed on any layers, they are preferably formed on one or more of the III-V epitaxial layers 18, the doped germanium active layer 14, and on the back side of the germanium substrate layer 12. Depending upon which layers the electrical contacts 20a, 20b, 20c, 20d, 20e, and 20f in Figures 1 and 2 are coupled to, and which electrical contacts 20a, 20b, 20c, 20d, 20e, and 20f are coupled, various preferred embodiments of microelectronic, optoelectronic, and optoelectronic integrated circuits ("OEIC") may be formed. These are described below.

Please replace paragraph [0030] with the following amended paragraph:

[0030] For example, by coupling together some of the electrical contacts 20a, 20b, 20c, 20d, 20e, and 20f of the III-V epitaxial layers 18 which are not intended for photosensitivity, various microelectronic transistors may be produced. Similarly, by

coupling together some of the electrical contacts 20, 20a, 20b, 20c, 20d, 20e, and 20f of the light sensitive growth layers, such as the germanium substrate 12, either with or without the non-light sensitive growth layers, optoelectronic, or optically active devices, may be produced. Some examples of optoelectronic devices include the formation of an active germanium-device 14 such as a photodetector, light emitting diode ("LED"), or laser. The use of germanium substrates 12 as a template for these microelectronic and/or optoelectronic devices offers a substantial cost advantage in terms of manufacturing while maintaining the high quality of the III/V epitaxial as compared with traditional substrates such as GaAs and InP.

Please replace paragraph [0032] with the following amended paragraph:

[0032] By combining the electrical contacts ~~20~~ 20e of the germanium substrate 12 and the electrical contacts 20a, 20b, 20c, or 20d epitaxial layers 18, an optoelectronic or microelectronic device can be formed with high performance and cost effectiveness not previously attainable in either microelectronic or optoelectronic devices using a conventional substrate. By combining electrical contacts 20e of the germanium substrate 12 with the electrical contact 20f germanium substrate active layer 14 and one or more of the electrical contacts 20a, 20b, 20c, or 20d of the epitaxial layers 18, an OEIC can be formed with functionality and high performance not previously attainable in either microelectronic or optoelectronic devices.